ORIGINAL RESEARCH

STUDY OF CORRELATION BETWEEN PAP SMEAR WITH CLINICAL PRESENTATION

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ABSTRACT

Background: The comprehensive global cancer statistics from International Agency for Research on Cancer indicated that gynaecological cancers accounted for 19% of the 5.1 million estimated new cancer cases, 2.9 million cancer deaths and 13 million 5-year prevalent cancer cases among women in the world in 2002, of which carcinoma Cervix accounted for 4,93,000 new cases and 2,73,000 deaths. More than 80% of cervical cancer was found to occur in developing countries. Among the population based cancer registries Barshi.

Aim & Objective: 1. To screen cervical cancer by conventional papsmear.2. To assess the prevalence of premalignant and malignant lesions of the cervix.3. To correlate the type of pap-smear reports with clinical presentation of the patient

Method: Study design: Prospective study. Study setting: Department of Obstetrics and Gynecology at tertiary care centre. Study duration:……..Study population: The study population included all women who are more than 21 years of age and sexually active were selected

Sample size: 200

Results: 48% belonged to age less than 30years age group, 30% belonged to 31-40 yrs group, 9% belonged to 41-50 yrs. age group and 13% belonged to age more than 50yrs. 0% belonged to nulliparous group, 15% were para one,39% were para two , 36.5% were para three,8% were para four and1.5% belonged to group of para five. 10% patients has ASCUSpapsmear report,02% has HSIL, and 02% has LSIL, infections were found to be in 13patients.5% patients have unsatisfactory smears. NILM were reported in 70% of the patients. 48% of ASCUS reports belonged to age group of less than 30 years and 30% were of 31 – 40 years age group. 2 patients of HSIL belonged to 31-40 years group, all LSIL also belonged to the same age group. Total 53.8% patients has NILM with infections of age group between 31-40 years and 42.3% reported with infections belonged to age less than 30 years. ASCUS in Pap smear report had healthy cervix that is 65%. In HSIL patients 50% cervical erosion and 50% cervical hypertrophy healthy is seen. 50% of LSIL patients has cervical erosions and 50% has vaginal discharge. Infections were reported in majority in patients with healthy cervix (97.14%).

Conclusions: Carcinoma cervix is a preventable disease, but there is no perfect screening test that has 100% sensitivity and specificity.Pap smear testing is a very useful,simple,economical, and safe tool to detect preinvasive cervical epithelial lesions.

Keywords: Carcinoma cervix, Pap smear, HSIL, LSIL cervical erosion.

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INTRODUCTION

The comprehensive global cancer statistics from International Agency for Research on Cancer indicated that gynaecological cancers accounted for 19% of the 5.1 million estimated new cancer cases, 2.9 million cancer deaths and 13 million 5-year prevalent cancer cases among
women in the world in 2002, of which carcinoma Cervix accounted for 4,93,000 new cases and
2,73,000 deaths. More than 80% of cervical cancer was found to occur in developing countries.(1)Among the population based cancer registries Barshi.(2) and Chennai population based cancer registries have recorded the highest incidence.

However all urban population based cancer registries.(3) at Bangalore, Bhopal, Chennai, Mumbai have shown a statistically significant decrease in age adjusted incidence rates. Over 80% of the cervical cancer present at a fairly advanced stage and annually around 80,000 deaths are reported in India.(4)High-quality screening with cytology (Pap testing) has markedly reduced mortality from squamous cell cervical cancer, which comprises 80- 90% of cervical cancers.(5)

In developing countries like India, the burden of cervical cancer is still high. According to the World Cancer statistics, >80% of all the cervical cancer cases are found in developing and low-resource countries, because of a lack of awareness and difficulty in running cytology-based
screening programs.(6)

Every year, 122,844 women in India are diagnosed with cervical cancer, and 67,477 women die from the disease.(7)Approximately half of the cervical cancers diagnosed in the United States are in women never screened, and an additional 10 percent of cancers occur among women not screened within the past five years.(8,9)National Cancer Registry of India (2007) reported 90,708 new cases of Carcinoma cervix with five year survival rate of about 48 %.(10)

So even a single smear in lifetime if appropriately timed will produce a significant benefit. Hence the present study is an endeavor to determine relation of cervical lesions, clinical presentation of the lady to their pap-smear reports and demographic factors.

AIM AND OBJECTIVES

1. To screen cervical cancer by conventional papsmear.
2. To assess the prevalence of premalignant and malignant lesions of the cervix.
3. To correlate the type of pap-smear reports with clinical presentation of the patient

MATERIAL AND METHODS

Study design: Prospective study

Study setting: Department of OBGY at tertiary care centre

Study duration: ……..

Study population: The study population included all women who are more than 21 years of age and sexually active were selected

Inclusion criteria:

1. More than 21 years of age
2. Sexually active married women
3. Vaginal discharge
4. Blood mixed discharge
5. Foul smelling discharge

6. Post coital bleeding
7. Inter menstrual bleeding
8. Post menopausal bleeding

Exclusion criteria:

1. Less than 21 years of age
2. During menstruation
3. Clinically detected cervical , uterine or ovarian malignant lesion

Approval for the study:

Written approval from Institutional Ethics committee was obtained beforehand. Written approval of OBGY department and related department was obtained. After obtaining informed verbal consent from all Subjects were included in the study

Sample Size: 200

Sampling technique: Using purposive sampling technique a total of 200 Subjects were included in the study.

Methods of Data Collection and Questionnaire:

History of the patient was noted. Informed written consent was taken from the patient. Patient made to lie in the supine position. Under strict aseptic conditions Cusco's speculum was introduced visualizing the cervix. Ayre's spatula was used to collect sample. Introducing the end of spatula in the cervical os, rotating it 3 times and keeping shoulder of the spatula in contact with the ectocervix ensuring the SCJ if visible was sampled.

The spatula was wiped ohntothe labelled glass slide. 95% ethanol fixative was sprayed. Glass slide sent for reporting to central laboratory of MNRCENTRAL lab. According to the BETHESDA SYSTEM 2001 reporting was done, the reports collected were compared to clinical presentation of the lady and demographic factors which were noted.

Data entry and analysis:

The data were entered in Microsoft Excel and data analysis was done by using SPSS demo version no 21 for windows. The analysis was performed by using percentages in frequency tables, $p<0.05$ was considered as level of significance using the Chi-square test.

RESULTS AND OBSERVATIONS

A total of 200 patients were included in the study who gave consent to do papsmear screening and getting included in the study .Patients fulfilling the inclusion and the exclusion criteria were included in the study. In total of 200 patients, 44.5% had menarche at 11-12 yrs. of ag, 54% at 13-14 yrs of age and 1.5% had menarche at or more than 15 yrs age group. Out of 200 patients, age at marriage below 20 yrs. was of 24% patients, 58% married at the age of 21-25 yrs and 18% patients belonged to group more than 25 yrs. of age.

In 200 patients, it was seen 11% belonged to group of less or equal to 5 years marital life, 24.5% to 6-10 years of marital life and 22.5% belonged to group of 11-15 years of marital life. 7.5% came with complaints of dysmenorrhea,58% with dysuria, 28% with menorrhagia,33% had come with complaint of lower abdominal pain, 1% with post coital bleeding, 42.5% had come for routine checkup and 9% with vaginal discharge.

Table 1: AGE DISTRIBUTION (n = 200)

Age in years	Frequency	Percentage
<=30	96	48%
31-40	60	30%
41-50	18	9%
>=50	26	13%

Total	**200**	**100%**

In total 200 patients, 48% belonged to age less than 30years age group, 30% belonged to 31-40 yrs group, 9% belonged to 41-50 yrs. age group and 13% belonged to age more than 50yrs.

Table 2: Parity Distribution

Parity	**Frequency**	**percentage**
P0	0	0%
P1	30	15%
P2	78	39%
P3	73	36.50
P4	16	8%
P5	3	1.50
Total	**200**	**100%**

In 200 patients it is seen that 0% belonged to nulliparous group, 15% were para one,39% were para two, 36.5% were para three,8% were para four and1.5% belonged to group of para five.

Table 3. Pap smear report

Parity	**Frequency**
ASC-US	20
LSIL	2
HSIL	2
NILM	140
NILM,INFECTION	26
UNSATISFACTORY	10
Total	**200**

In total of 200 patients, 10% patients has ASCUSpapsmear report,02% has HSIL, and 02% has
LSIL, infections were found to be in 13patients.5% patients have unsatisfactory smears. NILM
were reported in 70% of the patients.

Table 3: Correlation of age with pap smear reports

		PAP SMEAR REPORT							**Total**
		ASCUS	**LSIL**	**HSIL**	**NILM**	**NILM Atrophic smear**	**NILM. INFECTION**	**Unsatifactory**	
AGE	<30	11	0	0	68	0	11	6	96
		55%	0.00%	0.00%	48.50%	0.00%	42.30%	60%	48%
	31-40	9	2	2	32	0	14	1	60
		45%	100%	100.00%	22.80%	0.00%	53.80%	10%	30%

	41 - 50	0	0	0	15	1	1	2	18
		0.00%	0.00%	0.00%	10.70 %	100.00 %	3.80%	20%	9%
	>50	0	0	0	25	0	0	1	26
		0.00%	0.00%	0.00%	17.80 %	0.00%	0.00%	10%	13%
Total		20	2	2	140	0	26	10	200
		100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00%	100.00%	100.00 %

In 200 patients, 45% patients with ASCUS has age at marriage of more than 25 years and 2 HSIL patients were also found to be in the same group. 57.6% patients with Infection belonged to group with age at marriage of 21-25 years.

Table 4: Correlation of per speculum findings with pap smear report

		PAP SMEAR REPORT						
		ASCUS	**LSIL**	**HSIL**	**NILM**	**NILM Atrophic smear**	**NILM. INFECTION**	**Unsatifactory**
SPECULUM EXAMINATION	Carvical erosion	2	2	1	1	0	0	0
		10%	100 %	50.00 %	0.70 %	0.00%	0.00%	0.00%
	Cervix hypertrophy	2	0	1	2	0	0	0
		10%	0%	50.00 %	1.40 %	0.00%	0.00%	0.00%
	NAD Vaginal	13	0	0	136	0	18	10
		65%	0%	0.00%	97.14 %	0.00%	69.23%	100.00%
	NAD Vaginal	3	0	0	1	0	8	0
	Discharge	15%	0.00 %	0.00%	0.70 %	0.00%	30.76%	0.00%
Total		20	2	2	140	0	26	10
		100.00%	100 %	100.00%	100%	0.00%	100.00%	100.00%

In total of 200 patients, It is found that patients having ASCUS in Pap smear report had healthy cervix that is 65%. In HSIL patients 50% cervical erosion and 50% cervical hypertrophy healthy is seen. 50% of LSIL patients has cervical erosions and 50% has vaginal discharge. Infections were reported in majority in patients with healthy cervix (97.14%).

DISCUSSION

Age distribution:

In total 200 patients, 48% belonged to age less than 30 age group, 30% belonged to age group 31-40 yrs, 9% belonged to 41-50 yrs. age group and 13% belonged to age more than 50yrs. Similarly in a study done by Selhi PK et al, a study of 628 patients the maximum number of patients (250) was in the sexually active age group of 31-40 years.(5)

Age at menarche:

In total of 200 patients, 44.5% had menarche at 11-12 yrs. of ag, 54% at 13-14 yrs of age and 1.5% had menarche at or more than 15 yrs age group.

Age at marriage:

Out of 200 patients, age at marriage below 20 yrs. was of 24% patients, 58% married at the age
of 21-25 yrs and 18% patients belonged to group more than 25 yrs. of age.

Duration of marital life:

In 200 patients, it was seen 11% belonged to group of less or equal to 5 years marital life, 24.5% to 6-10 years of marital life and 22.5% belonged to group of 11-15 years of marital life.

Parity distribution:

In 200 patients it was seen that 0% belonged to nulliparous group, 15% were para one,39% were para two, 36.5% were para three,8% were para four and1.5% belonged to group of para five.

Symptoms distribution:

In 200 patients, 7.5% came with complaints of dysmenorrhea,58% with dysuria, 28% with menorrhagia,33% had come with complaint of lower abdominal pain, 1% with post coital bleeding, 42.5% had come for routine checkup and 9% with vaginal discharge. This was in contrast to the study by Manjit Singh Bal et al, Selhi et al where the most common complaint in patients with epithelial cell abnormalities was vaginal discharge followed by lower abdominal pain.

Pap smear reports:

In total of 200 patients, 10% patients had ASCUSpap smear report,2% had HSIL, and 2% had LSIL, infections were found to be in 13% patients. 5% werereported to have unsatisfactory smears. NILM were reported to be in 70% of the patients. Smears showing ASCUS (Atypical squamous cells of undetermined significance) were 20(10%) in our study. Total number of unsatisfactory smears was 5% (10) similar to the studies done by Selhi PK et al. In study conducted by Sunita et al8 13(2.3%) reports showed ASCUS and in study conducted by Mandakini et al9 reports showing ASCUS were 41(4.1%). Smears showing LSIL (Low grade squamous intraepithelial lesion) were 2(1%) in our study. In study conducted by Sunita et al.(11)11(1.9%) which was similar to our study, where as one more study conducted by Mandakini et al.(12)reports showing LSIL were 41(0.1%) and this is very low LSIL rates compared to our study. In our study HSIL (High grade squamous intraepithelial lesion) reports were 2(1%), whereas in study conducted by Sunita et al2(0.3%) reports gave HSIL. In study conducted by Mandakini et al.(12)HSIL reports were 1(0.1%).

Correlation of per speculumfindings with pap smear reports:

In total of 200 patients, It was found that patients having ASCUS in Pap smear report had healthy cervix that is 65%. In HSIL patients 50% cervical erosion and 50% cervical

hypertrophy healthy was seen. 50% of LSIL patients had cervical erosions and 50% has vaginal discharge. Infections were reported in majority of patients with healthy cervix (97.14%).

CONCLUSION

Carcinoma cervix is a preventable disease, but there is no perfect screening test that has 100% sensitivity and specificity. Pap smear testing is a very useful, simple, economical, and safe tool to detect preinvasive cervical epithelial lesions. Early detection of possibility of malignancy helps in prompt treatment at early stage and prolongation of life expectancy of many women and reduce the mortality and morbidity of cancer cervix.

All medical professional such asdoctors, nurses, anganwadi workers, midwives, and other healthcare workers should be trained to reach out to these women so as to improve their knowledge and awareness regarding pap smear examination. Every women who comes for screening/hospital for any reason should be educated regarding the benefits and implications of pap smear examination. For information, communication, and education various methods such as posters and short films can be shown in outpatient department, waiting area and canteen of the major hospitals.

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